

CLAIMS

WE CLAIM:

1. A batching system for controlling ingredients that are manually added to a batch via at least one transfer container, wherein the ingredients include reconciled ingredients and unreconciled ingredients that are initially disposed in origin containers, the system comprising:
 - a first sensor for measuring an amount of an ingredient in a container;
 - a second sensor for identifying an ingredient in a container; and
 - a computer communicating with the first and second sensors and having a user interface, wherein the computer executes a stored program configured to:
 - i. identify a quantity and identity of a reconciled ingredient to be added to the batch from a recipe;
 - ii. verify the origin container of the ingredient identified in (i);
 - iii. measure a quantity related to the origin container of the reconciled ingredient before the ingredient is added to the batch; and
 - iv. measure and log the quantity related to the origin container of the reconciled ingredient after the ingredient is added to the batch.
2. The system as recited in claim 1, wherein the first sensor comprises a scale.
3. The system as recited in claim 2, wherein the quantity related to the origin container is a weight.
4. The system as recited in claim 1, wherein the second sensor comprises a bar code scanner operable to read bar codes disposed on each origin container containing a reconciled ingredient.
5. The system as recited in claim 4, wherein the bar code scanner is operable to read bar codes disposed on each transfer container.
6. The system as recited in claim 1, wherein the stored program is further configured to verify that the measured quantity during (iii) is within a tolerance of a previously logged quantity.

7. The system as recited in claim 1, wherein the stored program is further configured to:

v. identify a quantity and identity of an unreconciled ingredient to be added to the batch from the recipe; and

vi. measure the quantity of the transfer container receiving the unreconciled ingredient after the unreconciled ingredient is added to the batch.

8. The system as recited in claim 1, wherein the transfer container is identified prior to the reconciled ingredient being added to the batch.

9. The system as recited in claim 1, wherein the stored program is further configured to map a predetermined order in which the ingredients are to be added to the batch.

10. The system as recited in claim 9, wherein ingredients are added in a descending order of quantity to be added to the batch.

11. The system as recited in claim 9, wherein an ingredient is split if the quantity of the ingredient to be added to the batch is greater than an available volume in an empty transfer container.

12. The system as recited in claim 9, wherein stranded transfer containers containing ingredients of the recipe are added to the batch.

13. The system as recited in claim 9, wherein multiple batches are prepared simultaneously.

14. The system as recited in claim 1, wherein the stored program is further configured to display messages via the user interface to an operator regarding the identity and quantity of a next ingredient to be added.

15. The system as recited in claim 1, wherein the stored program is further configured to track lot numbers corresponding to origin containers of those reconciled ingredients that are controlled ingredients.

16. The system as recited in claim 1, further comprising a mixing station integrated with the batching system for mixing the batches with bulk ingredients.

17. The system as recited in claim 1, further comprising an inventory monitoring station receiving data obtained by the first and second sensors for tracking a quantity of available origin containers.

18. A business method for controlling ingredients that are manually added to a batch via at least one transfer container, the method comprising:

A) providing a plurality of ingredients including reconciled and unreconciled ingredients disposed in corresponding origin containers;

B) providing a first sensor for measuring an amount of an ingredient in a container;

C) providing a second sensor for identifying an ingredient in a container; and

D) providing a computer communicating with the first and second sensors and having a user interface, wherein the computer executes a stored program that:

i. identifies a quantity and identity of a reconciled ingredient to be added to the batch from a recipe;

ii. verifies the origin container of the ingredient identified in (i);

iii. measures a quantity related to the origin container of the reconciled ingredient before the ingredient is added to the batch; and

iv. measures and logs the quantity related to the origin container of the reconciled ingredient after the ingredient is added to the batch.

19. The system as recited in claim 18, wherein the stored program further verifies that the measured quantity during (iii) is within a tolerance of a previously logged quantity.

20. The system as recited in claim 18, wherein the stored program further:

v. identifies a quantity and identity of an unreconciled ingredient to be added to the batch from the recipe; and

vi. measures the quantity of the transfer container receiving the unreconciled ingredient after the unreconciled ingredient is added to the batch.

21. The system as recited in claim 18, wherein the transfer container is identified prior to the reconciled ingredient being added to the batch.

22. The system as recited in claim 18, wherein the stored program further maps a predetermined order in which the ingredients are to be added to the batch.

23. The system as recited in claim 22, further comprising mapping ingredients to be added to the batch generally in an order of descending quantity.

24. The system as recited in claim 22, further comprising splitting an ingredient if the quantity of the ingredient to be added to the batch is greater than an available volume in an empty transfer container.

25. The system as recited in claim 22, further comprising adding stranded transfer containers containing ingredients of the recipe to the batch.

26. The system as recited in claim 22, further comprising preparing multiple batches of the same ingredient simultaneously.

27. The system as recited in claim 18, further comprising displaying messages to an operator via the operator interface regarding the identity and quantity of a next ingredient to be added.

28. The system as recited in claim 1, further comprising tracking lot numbers corresponding to origin containers of those reconciled ingredients that are controlled ingredients.

29. The system as recited in claim 1, further comprising integrating the batching system with a mixing station integrated for mixing the batches with bulk ingredients.

30. The system as recited in claim 1, further comprising tracking a quantity of controlled ingredients.